



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,790	05/25/2001	Hiroyuki Ebinuma	01307/HG	3337
1933	7590	04/20/2004	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 767 THIRD AVENUE 25TH FLOOR NEW YORK, NY 10017-2023			COLE, MONIQUE T	
			ART UNIT	PAPER NUMBER
			1743	
DATE MAILED: 04/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/856,790	EBINUMA ET AL.	
	Examiner	Art Unit	
	Monique T. Cole	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7 and 11 is/are rejected.
- 7) ☒ Claim(s) 3,6,8-10 and 12-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 7 & 11 is withdrawn in view of the reconsideration of the Tan reference. A rejection based on the newly applied reference follows.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4 & 5 are rejected under 35 U.S.C. 102(e) as being anticipated by USP 6,107,100 to Dabovic (herein referred to as "Dabovic").

Dabovic teaches a method for quantitatively determining a sulfur-containing analyte comprising: combining the analyte with a Zn-hydroxide compound (metal compound) and a nitroprusside (metal indicator/chromophore); and determining the degree of resultant color formation. The analyte may be homocysteine wherein an additional compound may be used to further reduce the homocysteine prior to determination. This step will facilitate the formation of sulfide ions. Col. 5, lines 41-47, explicitly details measuring thiol formation (contains sulfide ions) by combining zinc and nitroprusside with a homocysteine sample and noting a degree of

color formation. At numerous other instances, the specification details measuring the absorbance of said color formation. See abstract; col. 2, lines 20-29; col. 3, lines 55-58; col. 4, lines 20-35, 43-60; col. 5, lines 33-60; col. 8, claims.

3. Claims 7 & 11 are rejected under 35 U.S.C. 102(e) as being anticipated by USP 5,985,540 to Tan et al. (herein referred to as "Tan").

Tan teaches using an enzyme (homocysteinase) to break down either homocysteine or cysteine into H_2S and treating with a metal compound (ferric chloride) and a metal indicator (NDPD) to produce a color reaction and measuring with a spectrophotometer (col. 25, lines 52-54 and col. 26, lines 18-44). Tan teaches that the concentration of the color compound produced is reflective of H_2S produced.

Response to Arguments

4. Applicant's arguments filed 1/20/2004 have been fully considered but they are not persuasive.

Applicant has made two arguments disputing the application of Dabovic as a 35 USC 102(b) reference against claims 1, 2, 4 and 5. Namely, Applicant has argued that (1) "because of its lack of disclosure with respect to the mechanism in which said phenomenon lies, Dabovic does not teach or suggest that the color development in his method could be applicable to a method for the quantitative determination of hydrogen sulfide and/or sulfide ions," and (2) "the presently claimed invention and Dabovic are also considerably different in terms of mode of measurement."

Regarding Applicant's first argument, it is the Examiner's position that the quantitative determination of hydrogen sulfide and/or sulfide ions is inherent in Dabovic's invention. As a

result of the reduction of the disulfides to the thiol state, sulfide ions are released. Thus, while the Dabovic reference is directed to the detection of cysteine/homocysteine levels, the presence of sulfide ions is directly proportional to the reduction & quantification of cysteine/homocysteine.

With regard to Applicant's second argument, it is noted that the argument is directed only to one of Applicant's claimed embodiments. However, the instant claims recite the color development may be "*accelerated or inhibited*." As Applicant has correctly assessed, Dabovic teaches that increasing intensity of color development is measured in proportion to the concentration of the analyte, thus meeting the limitation of the claims that recite color development may be "*accelerated*." The presently claimed method provides for the measurement of the concentration of sulfides alternatively by accelerating or inhibiting methods.

Allowable Subject Matter

5. Claims 3, 6, 8-10 & 12-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique T. Cole whose telephone number is 571-272-1255. The examiner can normally be reached on Monday-Thursday from 6:30 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1743

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monique T. Cole
Examiner
Art Unit 1743

MC